International Journal of Surgery (2007) 5, 162–166

INTERNATIONAL JOURNAL OF SURGERY

www.theijs.com

Surgical management of stress urinary incontinence in Scotland and Wales: A questionnaire study

Min Yu Lim [a,*], Mahesh Perera [b], Ian Ramsay [c], John Tierney [c], Chris Hardwick [c]

[a] *Department of Obstetrics, The Queen Mother's Hospital, Dalnair Street, Yorkhill, Glasgow G3 8SJ, UK*
[b] *Department of Obstetrics and Gynaecology, Glasgow Royal Infirmary, Castle Street, Glasgow G4 0SF, UK*
[c] *Department of Obstetrics and Gynaecology, Southern General Hospital, 1345 Govan Road, Glasgow G51 4TF, UK*

KEYWORDS
Stress incontinence;
Surgical management;
TVT

Abstract Urodynamic stress incontinence is a common complaint. There have been over two hundred procedures described for treatment. In 2003, the Royal College of Obstetricians and Gynaecologists in London published a guideline highlighting the evidence for different surgical approaches. These guidelines are intended to guide practice in the United Kingdom, including the two countries that were surveyed. It was our impression however that more sub-urethral tape type procedures were taking place than was recommended. We therefore undertook a postal survey of the consultant gynaecologists in Scotland and Wales, to compare current practice with the evidence base, and also to assess practice from a clinical and manpower perspective. Two hundred and forty consultants were identified in Scotland (161) and Wales (79). About two-thirds of those who saw patients with stress incontinence would always arrange pre-operative physiotherapy, and the majority of consultants would always organise urodynamics preoperatively. There were several different choices of primary procedure, with Tension Free Vaginal Tape (TVT™ Gynecare- Johnson & Johnson) the most common option. More than half of the respondents in both countries would refer a patient with recurrent stress incontinence to a specialist. TVT™ was also the most common choice of procedure for recurrent stress incontinence. The procedures that have a grade A recommendation in the RCOG guideline are Burch colposuspension and TVT™, and 72% in Scotland and 63% in Wales would perform one of these procedures as first choice. Clinical practice moves on and there are several new sub-urethral tape procedures available on the market. It is important to balance the available evidence base with new developments in order to optimise the management of this common condition.

* Corresponding author. Tel.: +44 141 201 0550.
E-mail address: limmy@doctors.org.uk (M.Y. Lim).

1743-9191/$ - see front matter © 2006 Surgical Associates Ltd. Published by Elsevier Ltd. All rights reserved.
doi:10.1016/j.ijsu.2006.06.018

Introduction

Urodynamic stress incontinence, previously known as genuine stress incontinence, is a solely urodynamic diagnosis which occurs when an incompetent urethra allows leakage of urine in the absence of a detrusor contraction.[1]

More than two hundred surgical procedures have been described for the treatment of stress incontinence, reflecting the difficulty in treatment of this common complaint. Recently there has been a move towards sub-urethral tape procedures such as Tension Free Vaginal Tape (TVT™ Gynecare- Johnson & Johnson) and ObTape® (Mentor Corp).

The Royal College of Obstetricians and Gynaecologists in London (RCOG) Clinical Green Top Guideline No. 35: ''Surgical Treatment of Urodynamic Stress Incontinence''[2] was published in October 2003. This guideline highlights the evidence for different surgical approaches. It is our impression however that clinical practice has moved on and that there is a much greater move towards sub-urethral tape surgery than the guideline suggests is prudent.

Aims

There were therefore two main aims of this study, firstly to compare current practice across Scotland and Wales with the evidence base as described in the RCOG Guideline, as the guideline is intended to apply to these countries, and secondly to assess the practice of local gynaecologists from both a clinical and manpower perspective.

Materials and methods

Two hundred and forty consultants were identified in Scottish (161) and Welsh (79) NHS Trusts as of October 2004, from the database maintained by the Royal College of Obstetricians and Gynaecologists. Between October and December 2004, these consultants were sent an anonymous questionnaire with a stamped addressed envelope for reply. No reminders were sent. The questionnaire is reproduced as Fig. 1.

Results

The return rate was 80% (129/161) for Scotland and 76% for Wales (60/79).

Eighty-one consultants in Scotland (63% of respondents) and forty-eight in Wales (80%) stated that they saw women with urinary stress incontinence in their practice.

Seeing patients with stress incontinence did not necessarily mean that the consultant would operate on those patients. Seventy four percent of Scottish and 92% of Welsh consultants indicated that they would themselves perform an operation for stress incontinence. The remainder would refer the patients to a colleague for operative management. This was most commonly a urogynaecologist or a gynaecologist with a special interest in urogynaecology.

With regard to pre-operative physiotherapy Table 1 shows about two-thirds of consultants in both countries did follow the practice. The RCOG guideline advises performing

SURVEY OF THE MANAGEMENT OF STRESS INCONTINENCE

1. Do you see women with urinary stress incontinence in your practice?

   ❑ No Thank you for your time. Please return this questionnaire in the stamped addressed envelope
   ❑ Yes Please continue with the survey

2. Is physiotherapy always performed prior to operative management?

   ❑ Yes
   ❑ No

3. What is your primary choice of surgery for stress incontinence?

   ❑ Burch colposuspension
   ❑ TVT
   ❑ IVS tape
   ❑ OB tape
   ❑ TVT-O
   ❑ Anterior repair with bladder buttress
   ❑ Needle suspension
   ❑ Injectable agents
   ❑ Other please state _____

4. Are urodynamics performed before primary surgery?

   ❑ All the time
   ❑ Some of the time
   ❑ None of the time

5. What would be your choice of procedure for recurrent stress incontinence?

   ❑ Burch colposuspension
   ❑ TVT
   ❑ IVS tape
   ❑ OB tape
   ❑ TVT-O
   ❑ Anterior repair with bladder buttress
   ❑ Needle suspension
   ❑ Injectable agents
   ❑ Other please state _____
   ❑ Refer urogynaecologist
   ❑ Refer urologist
      ❑ No urogynaecology service available in area
      ❑ Urologist preferred over urogynaecologist

6. Would you repeat urodynamics before a second operation?

   ❑ All the time
   ❑ Some of the time
   ❑ None of the time

7. Please indicate your age group.

   ❑ 30-39
   ❑ 40-49
   ❑ 50-59
   ❑ 60+

Thank you very much for your time. Please return this questionnaire in the stamped addressed envelope.

Region:

Figure 1 Questionnaire sent to consultants in Scotland and Wales.

Table 1 Pre-operative management

	Scotland		Wales	
	Yes	No	Yes	No
Do you operate on patients with stress incontinence?	60 (74%)	21 (26%)	44 (92%)	4 (8%)
Do you always offer physiotherapy before an operation?	39 (65%)	21 (35%)	30 (68%)	14 (32%)
Do you always arrange urodynamics pre-operatively?	52 (87%)	8 (13%)	34 (77%)	10 (23%)

Questions 2 and 3 only apply to those that answered Yes to Question 1.

preoperative urodynamics prior to surgery and the authors would certainly agree with this practice. It confirms the diagnosis and allows prediction of both voiding problems and persistence of any urgency problems postoperatively. Results are shown in Table 1. Some consultants said that urodynamic studies would be performed some of the time.

There were several different choices of primary procedure for stress incontinence, with nine different single options mentioned. There were also a number of consultants who replied that their choice of procedure would depend on a number of different features, such as the patient's age and pre-operative fitness, or their participation in an ongoing trial. Sixty percent of Scottish consultants and 45% of Welsh consultants presently perform TVT ™ as their first choice procedure. Table 2 shows these results in detail.

When it came to the problem of recurrent stress incontinence, more than half of consultants would refer these patients to another colleague for further management. The most common choice was a urogynaecologist, but four Welsh consultants would instead refer them to a urologist. Just 47% of Scottish consultants and 45% of Welsh consultants would perform a repeat operation for stress incontinence.

Table 2 Primary choice of surgery for stress incontinence

	Scotland ($n = 60$)	Wales ($n = 44$)
TVT (Gynecare)	36 (60%)	20 (45%)
Burch colposuspension	7 (12%)	8 (18%)
ObTape (Mentor)	6 (10%)	4 (9%)
TVT-O (Gynecare)	4 (7%)	0
Anterior repair with bladder buttress	3 (5%)	2 (5%)
IVS Tape (Tyco)	1 (2%)	2 (5%)
Monarc (American Medical Systems)	0	2 (5%)
Stratasis TF Urethral Sling (Cook)	0	1 (2%)
LIFT Tape (Brenner)	1 (2%)	0
Depends	2 (3%)	5 (11%)

Table 3 Choice of procedure for recurrent stress incontinence

	Scotland ($n = 28$)	Wales ($n = 20$)
TVT (Gynecare)	11 (39%)	7 (35%)
Depends	9 (32%)	10 (50%)
TVT-O (Gynecare)	3 (11%)	0
TOT Ob Tape (Mentor)	3 (11%)	0
Burch colposuspension	2 (7%)	2 (10%)
Rectus sheath sling	0	1 (5%)

Table 3 shows the choice of procedure for repeat operations. TVT was again the most common choice of procedure, both as a single option, and also as one of the options where a consultant listed more than one option (these are grouped as ''Depends'', and there were eleven separate combinations).

Of the consultants who performed secondary operations, twenty-four of the Scottish consultants (86%) and nineteen Welsh consultants (95%) stated that they would always repeat urodynamics before a second operation, while the remainder indicated that urodynamics would be repeated some of the time.

Discussion

The RCOG Guideline states that ''primary surgery should only be considered after a period of conservative treatment from a specialist therapist has been offered and rejected, or has failed.'' A recent Cochrane review has concluded that pelvic floor muscle training is better than no treatment, placebo drug, or inactive controls for women with urinary incontinence.[3] An Australian study showed an objective cure rate of 64% when physiotherapy was used as first line treatment of urodynamic stress incontinence,[4] thus confirming the beneficial nature of this therapy. Patient views of physiotherapy will undoubtedly affect the compliance rates, however and if the patient is not enthusiastic then these very good success rates will not be obtained. Nonetheless, if physiotherapy is not offered pre-operatively, it could mean that as many as 64% of patients would have an operation they may have been able to avoid. The authors would argue that the fact that only two-thirds of consultants in Scotland and Wales would always arrange for physiotherapy prior to operative management of stress incontinence is disappointing and that more should be done in these units to raise the awareness of, and highlight the benefits of physiotherapy with a view to increasing the availability of this treatment.

The guideline recommends that urodynamic investigations should be performed before any surgical procedure, as this allows objective assessment of the type of incontinence and the presence of any complicating factors such as voiding difficulty and detrusor overactivity. On the other hand, it is recognized that there is a small cohort of surgeons who believe that pre-operative urodynamics is not always needed, especially if stress incontinence is objectively demonstrated and in absence of overactive bladder symptoms. However if voiding dysfunction occurred after

surgery it would be impossible to know whether this was as a result of the surgery. While the majority of surgeons in Scotland and Wales would insist on having urodynamics performed pre-operatively, this is by no means universal and therefore there is room for improvement.

Burch colposuspension has a continence rate of 85 to 90% at one year and 70% at five years.[5] The originators of the TVT procedure report a 85% cure rate and a further 11% who were ''significantly improved''.[6] Burch colposuspension and TVT are the two procedures that have a grade A recommendation in the RCOG Guideline. 72% of consultants in Scotland and 63% in Wales would choose one of these procedures as their choice for primary surgery and this is encouraging. TVT was far more commonly performed than the colposuspension procedure and the authors would applaud this. The RCOG guideline and a Cochrane Review state that colposuspension is the most successful procedure for stress incontinence[7] but this does not take into account the minimal access nature of the TVT with all its inherent benefits. Furthermore since the guideline was produced we now have 8-year data on the TVT procedure, which confirms its ongoing success rates.[8]

Five percent of consultants perform anterior repair for stress incontinence despite a grade A recommendation that this procedure is less successful as an operation for continence over retropubic procedures. This is extremely disappointing since there are a number of alternative procedures with higher success rates.

There are several different sub-urethral tape devices available, both retropubic and trans-obturator in approach. TVT is the only synthetic sub-urethral tape that has been subjected to a randomised study to date.[9] Follow up data has been published by the study group that shows the cure rates at 2 years are comparable to Burch colposuspension.[10] The other devices are as yet unproven as they have not been subjected to randomised controlled trials for peer review. Whilst procedures utilizing the trans-obturator approach such as TVT-O and ObTape are not recommended in the guideline several consultants in this study perform them. Obviously research and practice moves on and someone needs to be at the forefront of this. One should not therefore be critical of surgeons performing a new procedure as long as it is appropriately registered and performed as part of an audit or clinical trial. There are, indeed, several trials of trans-obturator tapes in progress.

More than half of the surgeons who perform primary operations for stress incontinence would refer patients with recurrent stress incontinence to another colleague, who would most commonly be a urogynaecologist. This is in keeping with the recognition that recurrent stress incontinence may be a difficult problem to manage, and that referral to a colleague with a greater level of expertise may improve the outcome for the patient. The wide variation of secondary procedures reflects the difficulty in managing recurrent stress incontinence after primary surgery, as well the lack of evidence that one procedure is superior to another. In our survey, TVT was the most common choice of procedure for recurrent stress incontinence. Cure rates of up to 84% have been reported in patients up to 8 years after a TVT procedure for recurrent stress incontinence.[11,12]

In the United Kingdom, there are presently 8 consultants that have completed sub-specialty training in urogynaecology, of whom 6 are in sub-specialty consultant positions and the other 2 in general jobs with a special interest in urogynaecology. The remainder of consultant urogynaecologists were trained before the introduction of formal sub-specialty training by the Royal College of Obstetricians and Gynaecologists. With regard to the future, there are a total of 16 sub-specialty training positions available with currently 13 trainees in post. This study demonstrates that most gynaecologists will refer recurrent problems to a 'specialist'. If this were representative of the whole of the UK, then clearly a sizeable number of urogynaecologists will be required in the future, and it is therefore encouraging that the RCOG continues to recognize this and make subspecialist training available.

Conclusions

Compared to the RCOG guideline, 72% of consultants in Scotland and 63% in Wales use one of the two procedures with a Grade A recommendation as their choice of primary surgery for urodynamic stress incontinence. TVT is the most popular choice of procedure, reflecting its steep learning curve and relative minimal invasiveness compared to colposuspension. A similar number follow the guideline as regards preoperative physiotherapy and urodynamic testing. Whilst this is encouraging it is by no means perfect and continued education in this area is clearly required.

References

1. Abrams P, Cardozo L, Fall M, et al. The standardization of terminology of lower urinary tract dysfunction: report from the standardization. Sub—committee of the ICS. *Neurology and Urodynamics* 2002;**21**:167—78.
2. Royal College of Obstetricians and Gynaecologists Clinical Guideline No. 35. Surgical treatment of urodynamic stress incontinence, http://www.rcog.org.uk/index.asp?PageID=538; 2002.
3. Hay-Smith EJC, Dumoulin C., Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. The Cochrane Database of Systematic Reviews 2006, Issue 1. Art. No.: CD005654.
4. Neumann PB, Grimmer KA, Grant RE, Gill VA. The costs and benefits of physiotherapy as first-line treatment for female stress urinary incontinence. *Australian & New Zealand Journal of Public Health* 2005;**29**(5):416—21.
5. Jarvis GJ. Surgery for genuine stress incontinence. *British Journal of Obstetrics & Gynaecology* 1994;**101**(5):371—4.
6. Nilsson CG, Kuuva N, Falconer C, Rezapour M, Ulmsten U. Long-term results of the tension-free vaginal tape (TVT) procedure for surgical treatment of female stress urinary incontinence. *International Urogynecology Journal* 2001;**12**(Suppl. 2):S5—8.
7. Lapitan MC, Cody DJ, Grant AM. Open retropubic colposuspension for urinary incontinence in women. Cochrane Database of Systematic Reviews 2003; CD002912.
8. Holmgren C, Nilsson S, Lanner L, Hellberg D. Long-term results with tension-free vaginal tape on mixed and stress urinary incontinence. *Obstetrics & Gynecology* 2005;**106**(1):38—43.
9. Ward K, Hilton P, United Kingdom and Ireland Tension-free Vaginal Tape Trial Group. Prospective multicentre randomised trial of tension-free vaginal tape and colposuspension as primary treatment for stress incontinence. *BMJ* 2002;**325**(7355):67—70.
10. Ward KL, Hilton P, UK and Ireland TVT Trial Group. A prospective multicenter randomized trial of tension-free vaginal tape and colposuspension for primary urodynamic stress

incontinence: two-year follow-up. *American Journal of Obstetrics & Gynecology* 2004;**190**(2):324—31.

11. Azam U, Frazer MI, Kozman EL, Ward K, Hilton P, Rane A. The tension-free vaginal tape procedure in women with previous failed stress incontinence surgery. *Journal of Urology* 2001; **166**(2):554—6.
12. Jomaa M., Long term results of TVT-tension free vaginal tape for surgical treatment under local anasthesia of recurrent female stress urinary incontinence or of previous failed surgery a prospective open study at 7—8 years follow up. 34th Annual Meeting of the International Continence Society, 23—27 August 2004, Paris, France. Abstract 717.